

An aerial photograph of a park area, showing a winding river or stream, various green spaces, and some buildings. The map is overlaid with a semi-transparent white box containing the title and other text.

Heritage Community Park & Natural Area

A MASTER PLAN

Prepared for:

**The Town of Blacksburg
Blacksburg, Virginia**

Prepared by:

**Wirth & Associates, Inc.
Landscape Architects and Land Planners
Charlotte, North Carolina**

March, 2003

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TRANSMITTAL

March 31, 2003

Ms. Bonnie Preas
Town of Blacksburg
South Main Street
Blacksburg, Virginia

Dear Ms. Preas,

On behalf of all the staff members of the project team, I am pleased to submit to you the Master Plan Report for the Heritage Community Park & Natural Area. It documents a process that we feel has been thorough and innovative, while being responsive to the site, the park's neighborhood and the Town of Blacksburg. We are very confident it will be a useful tool in the implementation of the proposed park's facilities.

Obviously, it has been a collaborative effort. The Town's staff, the Park and Recreation Advisory Board, the Tom's Creek Basin Vision Group/Friends of Brown Farm and, especially, the citizens of Blacksburg all deserve our thanks for providing clear and concise input and guidance. We can say, without hesitation, that the plan benefited greatly from the involvement of these people.

It has been our pleasure to participate in this planning assignment. We look forward, with enthusiasm, to the challenges of implementing the plan.

Respectfully submitted,

Gary N. Wirth, RLA, ASLA
Principal
Wirth & Associates, Inc.

PREFACE

The Town of Blacksburg has experienced steady growth throughout its community. This growth has placed more pressure on the Town's park resources. More people has translated into more parkland needed to meet the needs of the citizens.

In 1999, the Town of Blacksburg purchased 169 acres of land on Glade Road known as the Brown Farm. The purchase was intended for use as a new community park that would serve current and future residents' recreational needs now and in the future. This large land purchase was one that the Recreation Advisory Board had asked for over the last several years.

In October of 1999, Wirth & Associates, Inc., Landscape Architects and Land Planners, of Charlotte, NC, began the process of developing the master plan for this park. During the planning period, the consultants and staff were able to complete this plan, which reflects the input received from public meetings and the needs of the entire community.

The process for the Master Plan was to gather as much information from the most user groups as possible and then to make the best decision for the present and future recreational needs for the Town of Blacksburg.

Numerous open meetings and discussions were held. The Recreation Advisory Board spent countless hours talking, reading, and listening to the members of a wide range of user groups and citizens. Several different plans were developed for discussion by the Board.

Once a Master Plan was developed that conveyed the overall thoughts of the Board, it was presented to Town Council by Gary Wirth of Wirth and Associates, and Jack Maher, Chair of the Recreation Advisory Board.

The entire process was one that thrived on participation and gathering massive amounts of information. These two pieces (participation and information) were the key ingredients in developing a Master Plan that would serve the Town citizens' recreational needs for years to come.

ACKNOWLEDGEMENTS

Wirth & Associates wishes to acknowledge, with gratitude and appreciation, the assistance and information received from the following:

Those citizens in attendance at the Public Meetings

Town of Blacksburg Recreation Advisory Board

Dean Crane, Director

Town of Blacksburg Park and Recreation Department

Bonnie Preas, Purchasing Agent

Town of Blacksburg

Darren Coffey, Town Planner

Town of Blacksburg Planning Department

Tom's Creek Basin Vision Group/Friends of the Brown Farm

Their contributions and cooperation have been most helpful.

EXECUTIVE SUMMARY

The Heritage Community Park & Natural Area took a large step toward reality in 1999 when the Town of Blacksburg purchased 169 acres of land bounded by Glade Road and Meadowbrook Drive. In October of 1999, Wirth & Associates of Charlotte, NC, began the process of developing the Master Plan for this park.

Wirth & Associates started this process by conducting an extensive site inventory and analysis of the environmental and social characteristics of the site. To assist throughout the master planning process, Wirth & Associates utilized the services of Craig R. Wyant of A Fine Line Design, Lincolnton, NC, for environmental expertise and master planning design for the park. Mr. Wyant assisted throughout the process and this master plan is a direct result of his critical input.

Through a series of public input forums, a charette session, and a programming workshop, the design team developed three preliminary master plan alternatives for the park site. These plans, in turn, were presented at another public input forum and public comments were obtained and evaluated.

Utilizing this input, a working draft of the Preliminary Master plan was developed that reflected the following site development program: a nature themed park with a nature center, wildlife center, paved and unpaved trail systems, trailhead parking areas at the perimeter of the site, picnic shelters, nature themed playgrounds, and an area reserved for future active recreation. This area for future recreation remains the most controversial element of the Master Plan. It is intended to only be developed for active recreation if future needs of the Town, and the growth of the area, demand active recreation in this area of Town, and that no better suited site becomes available as an alternative option.

After some refinement, based on input from the Recreation Advisory Board, the Master Plan was presented to the Town Council on May 22, 2001. While this latest plan increased the portion of the site designated for preservation, natural areas and nature related activities to over 80%, consensus had not yet been reached. Further study by Town staff and the Recreation Advisory Board was deemed necessary.

As a result of the further study, two more Master Plan alternatives were presented for consideration in June and July of 2002. These alternatives gave rise to the final Master Plan, which was produced in November of 2002, and is included in this document.

Total build out of the Master Plan is estimated at \$6.35 Million. This figure is in 2003 dollars and may vary at the time bids are let. A proposed phasing plan for the park's elements is included in the last section of this Master Plan Report.

Overall, the Heritage Community Park & Natural Area Site will provide some much needed and very unique recreational resources and educational opportunities to the Town of Blacksburg.

SITE ANALYSIS

EXISTING FEATURES INVENTORY

The following map delineates the existing site features inventory. It illustrates the site's existing characteristics including a slope analysis, an inventory and assessment of the existing soils prevalent on the site, its drainage corridors, floodplains and estimated wetland areas. It also delineates the other physical features such as the existing farm structures, the AEP powerline right-of-way and the existing cemetery.

The major hydrologic feature on the site is Tom's Creek. Tom's Creek is the major drainage corridor through the northern sector of the site. By the time it exits the site, it drains over 8,000 acres. The associated 100-year and the 500-year floodplains are also mapped. These flood zones were derived from FEMA FIRM maps. Other drainage ways flow into Tom's Creek from both the Westover Hills area to the southeast and the Shadow Lake area to the east. It should be noted that the most environmentally sensitive areas, including wetlands, are adjacent to or near these major drainage corridors.

The site is also characterized by a variety of slope gradients. The gentlest slopes occur at the tops of the site's broad ridges and in the floodplains of the streams. These slopes are typically less than 10% and require the least amount of grading to accommodate development of roads or recreational activities. Slopes shown as 10%-20% gradient generally have good surface drainage but may be susceptible to erosion if disturbed. They present moderate limitations to development. The steepest slopes shown on the map are over 20% gradients. These slopes present severe limitations to development as they can be costly to grade, clear and develop. They also present severe susceptibility to erosion if disturbed.

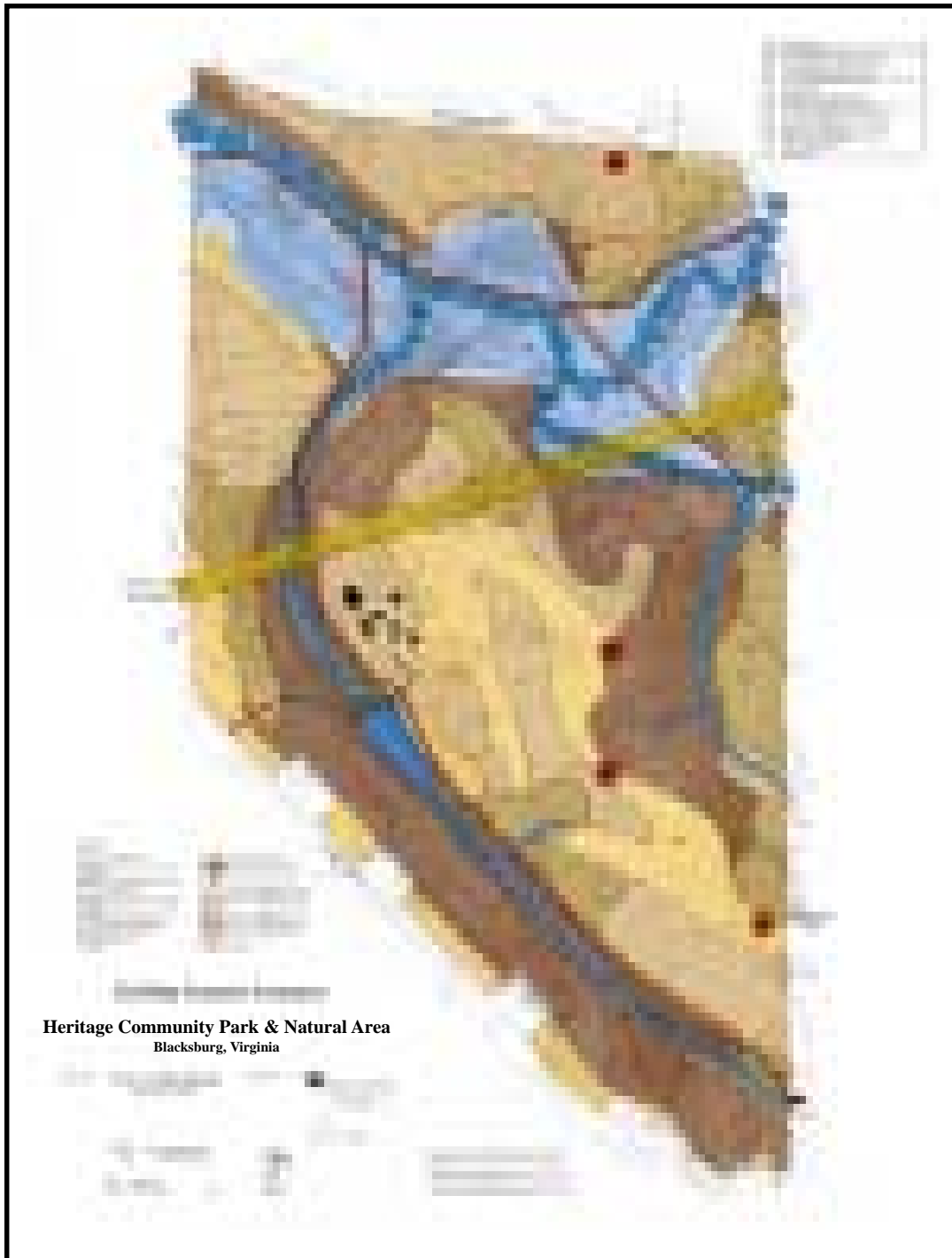
The existing soils prevalent on the site have been grouped into categories of limitations to development. Soils with the fewest limitations are characterized by moderate gradients, low erodibility and a deeper depth to bedrock. Soils with many limitations are characterized by steeper gradients, high erodibility and a shallow depth to bedrock.

The existing site structures are remnants of the working dairy farm that were in use at the site for generations. Some structures are not in a salvageable condition and should be demolished. The existing silos, however, are suitable for re-use and should be saved as a reminder of the agricultural past of the site. The existing cemetery also should be saved as a reminder of those who farmed and worked this land for generations.

Lastly, the AEP power line right-of-way needs to be recognized in the master plan. While there is no power line currently on the site, and any future lines must be placed underground, proposed structures in the master plan for the site should avoid being placed in this area.

Existing Features Inventory Map

click image for larger view



ECOSYSTEMS INVENTORY

While used primarily as a working dairy farm, the site also exhibits a large variety of bio-diversity in its existing vegetation communities. When the property was still an active dairy farm, each portion of the site had a role in the agricultural productivity of the operation. The function served by each portion of the site was a reflection of its physical characteristics and the needs of the operation. Ongoing farming activities maintained each portion of the site in a sustainable manner. The best portions of the site were used for farmstead development and hay production. Less desirable but accessible areas that were close to water were fenced in for grazing pastures. Forested areas were typically left intact due to the steepness of the land, shallow rock, and also to provide a source of fuel for heating and cooking and a source of wood for such things as fence posts and lumber.

Once certain farm activities had been abandoned, each portion of the site began to revert back to a more natural state through succession and maturation. The ecosystems and plant and animal communities which are present on the site today are in a state of constant transition, however their presence indicates both the historical uses of the site as a dairy farm as well as the physical characteristics of the site for development and recreational purposes.

The following map illustrates the various types of general vegetation community types which can be presently observed on the site. These different biological communities encourage a wide range of wildlife habitat throughout the site that should be preserved and enhanced. The ecosystems inventory has been generally divided into two different categories: 1) Lowland Community Types; and, 2) Upland Community Types, although each general category can be further divided into many sub-types.

Lowland Community Types:

Mowed Hayfield (Floodplain)
Willow Corridor Wetland
Riparian Wetland
Farm Pond
Floodplain Meadow
Beaver Dam and Pond
Wet Meadow

Marl Marsh Wetland
Cattail Marsh Wetland
Tributary Wetland
Tom's Creek Corridor
Floodplain Forest
Spring Box Area

Upland Community Types:

Mowed Hayfield (Ridges)
Early Succession Pasture
Bramble / Rose Thicket
Steep Slope Forest
Farmstead Vegetation
Tall Herb Succession

Hedgerow / Fencerow
Old Field / Shrub Succession
Hardwood Forest
White Pine Wind Row
Exposed Bedrock Succession

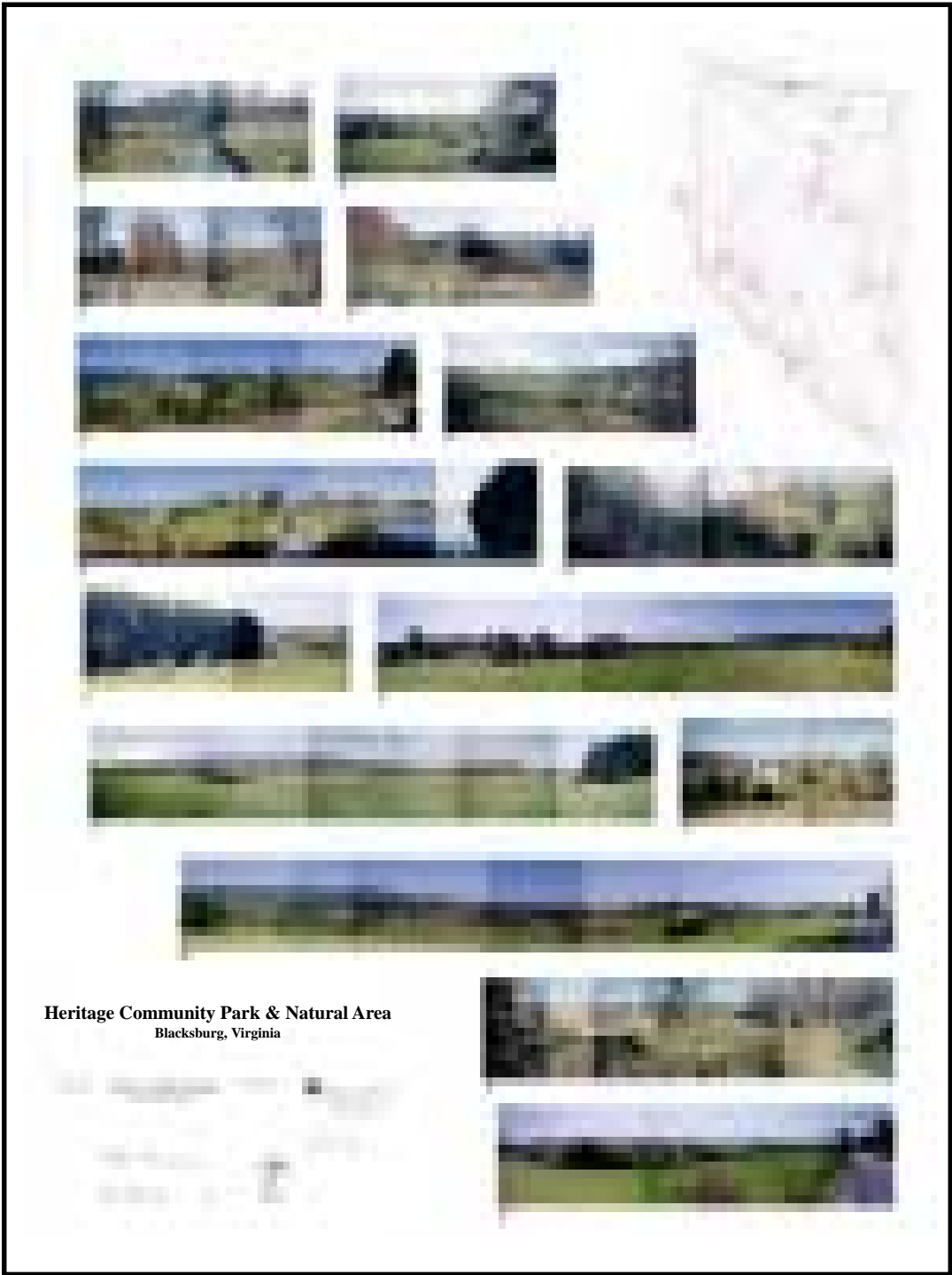
Ecosystems Inventory Map

click image for larger view



Photo Inventory

click image for larger view



PUBLIC INPUT MEETINGS/PROGRAM FORUM FORMULATION

Once the inventory and site analysis phase was completed, a two-day planning charette and input forum was held at the public library. The site inventory and analysis drawings as well as site context maps and a photographic inventory were presented to the public at the charette held on November 17th and 18th, 1999. Almost 500 attendees representing both the general community and special interest groups attended these meetings. The intent was to familiarize the public about the park's location and its opportunities as well as its constraints to various types of recreational development. The end result was to solicit comments and recommendations for the programming of the park's facilities.

The public was asked to pick the ten most desired elements they would want to see at the park site. A list of possible active and passive recreational opportunities was presented, and was added to, throughout the two-day charette session. Over 80% of the public comments from those who attended favored a nature themed park or nature preserve. Twenty percent of the comments from those who attended favored some level of active recreation. These desires were compared with national standards for recreation facilities and with facilities provided for towns of similar sizes. The lists on the following pages summarize the tabulation of the public's program preferences.

The project team evaluated the existing park facilities currently provided in the Town's park system and compared them to national, state of Virginia and state of North Carolina facility standards. Facility standards were then developed for the Town of Blacksburg. These standards are based on population. Current facilities were then compared to needed facilities projecting population growth for 2010. Needed facilities based on the projected population are summarized on the table that follows on page 12.

BROWN FARM PARK: Results from Charette Session

Date of Charette: November 17 & 18, 1999

Passive Elements	Votes
Nature Preserve/Park	376
Preserve wetlands	263
Walking Trails	210
Bird watching area	122
Wildflower Area	112
No Development - Trails only	111
Link between Huckleberry & Pandapas Pond	97
Picnic area/shelters	93
Maintain Beaver Pond	67
Boardwalks over wetlands	67
Integrate Trail System with Town Trail system	66
Natural Trail Surface	57
Multi-use trails: Jogging, Horses, Bikes	48
Nature Center	38
Camping	37
Community Garden spots	29
Amphitheater - Use Natural Grade to Create	25
Sculpture Garden	25
Enhance Pond	23
Arboretum	22
Campfire area for scouts	21
Reforest with volunteer labor	19
Save Silos/Preserve Heritage	17
Observatory	16
Gardens	15
Learning Interpretive Stations	15
Farm Style Architecture	13
Incorporate Arts with Nature Center	12
Additional Ponds for fishing	12
Multi Purpose Theater Arts Building	11
Farm Museum	11
Petting Zoo	10
Pavilion	9
Aquarium with local species	9
Visitors Center	7
Working Farm	7
Limit access and parking	6
Shelters near walking trails	4
Continue to Farm	4
Garden Center	3
Display Farm	2
Indoor/Outdoor Theater	0

BROWN FARM PARK: Results from Charette Session

Date of Charette: November 17 & 18, 1999

Active Elements	Votes
Soccer Fields	146
Youth Soccer Complex	113
Multiple Use Athletic Fields	32
Multi Athletic Field Complex	32
Cross Country Skiing	30
Sledding	26
Mountain Bike Trails	25
Playgrounds For Kids	20
Ice Skating	20
Cross Country Trails (for High School)	19
Ropes Course	18
Multi Use Indoor Field House	18
Climbing Wall	14
Horse Trails	13
Golf Course	13
Equestrian Facilities	13
Rugby Club Fields	11
BMX Bike Track	10
Light Fields-Minimize Spillover	10
Horse Riding Ring	7
Disk/Frisbee Golf	5
Baseball Field	4

"Other Elements"	Votes
No Asphalt Trails	151
Minimize environmental Impacts	137
Restrooms	114
No outdoor lighting	88
Resource for environmental education	72
Restore woodlands Ecosystem	63
Carefully Locate Parking - Be Sensitive	56
Land Use which requires Chemical use (fertilizers)	46
No Golf Course	43
No sewer line on site	43
No soccer fields	35
Mountain Biking	30
ADA Accessible Trails	28

BROWN FARM PARK: Results from Charette Session

Date of Charette: November 17 & 18, 1999

"Other Elements" (Cont.)	Votes
No Asphalt Parking	24
Sensitivity to Adjacent Residents	21
Boardwalk over wetlands	20
Open Space for Kite Flying	19
Alternative sewer alignment	19
Limited outdoor lighting (safety)	17
Road Access - Not across Tom's Creek	16
Tennis	15
Preserve Farm Structures	14
orchards	13
Swimming	10
Children's Garden	10
Bird Houses	10
Labyrinth Walk	10
Solar Latrines	10
Preserve and Document Cemetery	10
Cultural center with theater and Crafts	9
Dog Park	9
Sand Volleyball	8
Buffer Between Contrasting uses	8
skateboard Park	7
No Permanent Buildings	7
Indoor Plumbing	7
Braille Trail	7
Little League Baseball	6
Exercise Trail	6
Accessible Facilities	6
"Friends of the Park" program for funding	6
Trail Head Parking For National Forest Trail	6
Model Boating	5
Several access points	5
Carefully managed development	4
Some Paved trails	4
Roller Hockey	3
Concessions	3
Community Pavilion	3
Sell Non-Sensitive Land/ Buy more Sensitive Land	3
Softball Fields	2
Horseshoes	2

BROWN FARM PARK: Results from Charette Session

Date of Charette: November 17 & 18, 1999

"Other Elements" (Cont.)	Votes
Driving Range	2
Volleyball	2
Women's Softball	1
safety issues	1
"Kids Only" items to be voted on	1
Access to site from Glade St.	1
Festival area for Town	1
Shuffleboard	0

Park Facility Standards

Facility Type	National NRPA	North Carolina NCDEHNR	Virginia Outdoors Plan	Blacksburg Public Park Standards	Existing Public*** Facilities	Virginia Tech 2000 pop: 25,783	Projected 2000 Facility Needs** Est. pop: 39,573	Projected 2010 Facility Needs** Est. pop: 46,750
Regional	NA	20 ac/1000	4 ac/1000	5 ac/1000	279 acres	NA	198 acres	234 acres
District	5 - 10 ac/1000	10 ac/1000	4 ac/1000	4 ac/1000	0 acres	NA	158 acres	187 acres
Community Park	5 - 8 ac/1000	10 ac/1000	3 ac/1000	4 ac/1000	34 acres	NA	158 acres	187 acres
Neighborhood Park	1 - 2 ac/1000	2 ac/1000	3 ac/1000	3 ac/1000	65 acres	NA	119 acres	140 acres
Mini-Park	0.25 - 0.5 ac/1000	NA	NA	0.5 ac/1000	13 acres	NA	20 acres	23 acres
Playgrounds	NA	1/1000	NA	1/1000	20	NA	40	47
Tennis courts	1/2000	1/2000	1/2000	1/2000	7	22	20	23
Soccer fields	1/10000	1/10000	1/5000	1/2000	10	3	20	23
Baseball fields	1/12000	1/5000	1/6000	1/5000	4	0	8	9
Softball fields	1/5000	1/5000	1/3000	1/5000	3	4	8	9
Football fields	1/10000	1/10000	1/10000	1/10000	0	0	4	5
Volleyball courts	1/5000	1/5000	1/5000	1/5000	3	8	8	9
Community center	NA	NA	1/5k- 1/80k	1/20000	1	2	2	2
Picnic shelters	NA	1/3000	10/1000*	1/2000	6	0	20	23
Swimming pool	1/20000	1/20000	1/10k- 1/20k	1/20000	1	2	2	2
Trails (miles/1000)	1/region	1/1000	NA	1/1000	13.5	6.5	40	47
Basketball courts	1/5000	1/5000	1/5000	1/5000	5	9	8	9

* Virginia standard is for individual picnic tables per thousand people

** Expressed as an overall total; **not** in addition to prior years

*** Private recreational facilities are not shown in this table but are discussed in this chapter and greatly enhance the public recreational amenities throughout the community.

PRELIMINARY CONCEPT PLANS

Three Conceptual Plans were prepared showing reasonable variations of desired project elements deemed most supportive of the development program. The plans also showed variations of desired project elements that are compatible with the site and economically feasible. All the plans show some realignment of Glade Road for ingress and egress to the site. The project team feels that the present alignment does not afford reasonably safe sight distances to bring the public to a park facility as proposed in these plans. All plans have a varying degree of preservation and natural area enhancement as described below. All parking areas proposed would have paved aisles and pervious parking spaces to minimize runoff and pollutants. Best Management Practice (BMP) ponds are included in all plans as a means of catching runoff from developed areas, slowing the runoff and creating opportunities to filter pollutants before they reach Tom's Creek and other environmentally sensitive areas. All plans preserve the existing beaver dam across Tom's Creek. A continuation of the planned Tom's Creek Greenway trail is included in all the Preliminary Plans. A fourth alternative concept, not presented, is to do nothing to the site.

ALTERNATE NO. 1: NATURE PARK

Entering off of Glade road, the park drive travels eastward over a new dam for an enlargement of the existing farm pond ending at a new Nature Center prominently located on a high point overlooking the entire park site. The Nature Center includes indoor/outdoor classrooms, interpretive displays, educational stations and historical cemetery access. Open turf areas for informal recreational play are provided in proximity to the Nature Center.

A Pioneer Farmstead exhibit is proposed for the present homestead area of the site. This area would include kitchen gardens, rustic structures and preservation of the silos as observation towers. Community garden plots are also shown. A farm themed maintenance area is shown to the north of the entrance at Glade Road. The plan also proposes a 'Time-Garden' area. The area includes a walking track with a display fountain and seating area in the center. Trees would be planted one per year concentrically for a period of 30 years resulting in a sculptural spiral of trees that would illustrate the species growth over a 30 year period.

A trailhead parking area is provided with access from Meadowbrook Drive in the northeast area of the site. This parking area provides for access to the Jefferson National Forest located to the north of the site area. A trail connection to the forest will have to be planned and provided outside the scope of this project.

This plan proposes over 4 miles of paved and non-paved trails. Natural areas to be preserved and/or expanded including reforestation, meadows, and wetlands on this plan total 112 acres or 66% of the entire site area. Projected cost for this plan implementation is \$4.8 Million.

Preliminary Master Plan: Alternate #1

click image for larger view



Heritage Community Park & Natural Area
Blacksburg, Virginia

ALTERNATE NO. 2: RECREATION PARK

This alternative plan maximizes the active recreational opportunities on the Heritage Community Park site. Entering from Glade Road, a perimeter trailhead parking area is proposed that includes a large picnic shelter and a small playground. The entry road then travels eastward over the rebuilt dam and expanded lake area that has a pavilion including outdoor decks, rental paddleboats and a fishing pier. The entry road terminates at a roundabout where the park user can go right into the active recreation complex or left into the amphitheater area.

The active recreation complex proposed includes several multi-purpose fields for use as youth soccer, regulation soccer, football, lacrosse, rugby or field hockey. A softball field, volleyball courts, horseshoe pits and a tennis complex are also proposed. A multi-purpose recreation center, large and small picnic shelters and a large playground are also included in this area.

To the north of the roundabout, a large amphitheater is proposed. This amphitheater would have a 1,500 to 2,000 person capacity. Surfaced parking areas, with paved aisles and pervious spaces, are shown for up to 500 cars. Grassed overflow parking areas are also shown. North and west of the amphitheater, a new lake is shown. This lake, comprising about 3 acres, is surrounded by a walking track with benches, gazebos and fishing piers.

The nature center area for this alternate is shown on the north end of the site at the trailhead parking area accessed off of Meadowbrook Drive. This provides a maximum separation from the active recreation to the south while keeping it proximate to the ecologically sensitive areas along Tom's Creek. The Nature Center includes indoor/outdoor classrooms, a nature themed playground area and small picnic shelters adjacent to the Tom's Creek greenway trail.

Paved trails, including the greenway trail, total 2 miles. In addition, a 2.6 mile mountain bike and/or cross-country trail is also shown. A bike wash area is included off of the trailhead parking area at Meadowbrook Drive. Natural surface trails and boardwalks total 1.1 miles providing a total of almost six miles of trails included in this plan.

Natural areas, including existing forests, wetlands, successional meadows, reforested areas and wetland enhancement areas total 93 acres or 55% of the total site area. Proposed cost of this alternative is \$7.6 Million.

Preliminary Master Plan: Alternate #2

click image for larger view



Heritage Community Park & Natural Area
Blacksburg, Virginia

ALTERNATE NO. 3: NATURE & RECREATION CENTER

This alternative includes elements from each of the first two alternates and strives to provide some active recreation while preserving a majority of the site in a natural state with some enhancements and nature center activities. Entering off of the realigned Glade Road entrance, the lake is expanded and the dam reconstructed.

In the area of the existing farmstead, a “Nature of Agriculture” exhibit is proposed. This area includes rebuilding the existing farm structures, preserves the existing silos for owl roosts and would include educational displays showing the region’s agricultural roots and how agriculture and nature are intertwined. To this end, the nature center is located here on a prominent point overlooking Tom’s Creek and the northern section of the site. The Nature Center would include interpretive displays, indoor/outdoor classrooms and a nature themed playground. To the north of the nature center is a rustic amphitheater that could seat about 200 people. The Time Garden concept is also shown, accessible by trails, to the west of the amphitheater area.

The entry road from Glade Road continues in this alternative to a parking area to the south that serves a smaller active recreational component than shown in the previous alternative. Facilities include large & small picnic shelters, restrooms, large playground, youth soccer fields, a regulation soccer field, volleyball courts and horseshoe pits. This area is adjacent to Westover Hills neighborhood park and would satisfy some of the recreational needs of the community in this area of town. A group picnic shelter with restrooms and a small playground are provided slightly north of the recreation fields.

Trailhead parking, for cars and horse trailers, is shown with access from Meadowbrook Drive. While no horseback riding would be permitted within the Heritage Community Park site, this trailhead area would provide an eventual access to the Jefferson National Forest that is located to the north of the site as well as provide a staging area for the mountain bike trails included in the plan. A small playground, transit stop and a bike wash down area are also proposed for this area.

Including the Tom’s Creek greenway trail, this alternate proposes 1.5 miles of paved trails, 1 mile of mountain bike trail and 2.7 miles of natural surface trail for a total of 5.2 miles of trails shown on the plan.

Natural areas, including all preserved and enhanced areas, total 106 acres or 63% of the total site area. Total proposed cost of this alternative is \$5.35 Million.

Preliminary Master Plan: Alternate #3

click image for larger view



FINAL MASTER PLAN

The three Conceptual Plan Alternatives were presented for public input at a community forum on January 24, 2000. These three alternatives were based upon input from the November charette. The three concepts varied widely to ascertain the areas of consensus in the community. Approximately 150 citizens attended this forum and provided input by verbal comments and by comment sheets. Sixty-five percent of the forms collected expressed a preference for Alternative No. 1: Nature Park, 12% expressed a preference for Alternative No. 2: Active Recreation Park, and 20% expressed a preference for Alternative No. 3: Nature & Recreation Center. The remaining 3% expressed no preference.

Based on input received from the three conceptual master plan alternatives, several working drafts for the final master plan were created. These were presented to the Town of Blacksburg Recreation Advisory Board and then to the public for further input. Input received gave rise to a lengthy period of additional planning by Town staff and the Recreation Advisory Board which in turn produced the final Master Plan, as presented in this document. The Master Plan incorporates the input from the Recreation Advisory Board, the public input from the citizens of Blacksburg and the projected needs of the Recreation Department.

Entering from the realigned Glade Road, the entrance includes a trail connection under the roadway and a shelter for a future transit stop. The plan provides a trailhead parking area immediately to the north of the entry road. This area includes a large picnic shelter, parking for 50 cars with paved aisles and pervious spaces and landscape screening from Glade Road. Continuing on the entry road, the road passes over the rebuilt dam and the expanded lake area that included a picnic shelter. To the east of the lake area is an approximately 30-acre area that is reserved for future use. This area will be maintained as an open meadow until, at some future time, it is determined that active recreation is needed in this area of the town and that no better suited sites would be available for active recreation development. An indoor picnic shelter is provided at the northern end of the area reserved for future use.

To the north of the lake is the Nature Center area. The Nature Center area includes indoor/outdoor classrooms, community rooms, a satellite police station and parking for about 40 cars and 4 buses. The Nature Center is sited in the area of the existing farmstead and the design takes advantage of and preserves the existing large trees presently in this area of the site. Outdoor related features include a “nature” themed playground, a children’s wildflower garden and sensory garden, a ‘starlab’ observation platform, and a rustic amphitheater that could seat 100-150 people. Also, a wildlife center with preserved silos for bird observation is included in this core area along with a park maintenance area and caretaker residence.

At the northeastern part of the site, another trailhead parking area is shown that will provide hiking, biking and horse trail connections to the Jefferson National Forest just to the north of the site. An off-site trail access will need to be provided to the forest.

The trailhead area includes an open playfield, a large playground, a large picnic shelter with restrooms and parking for about 50 cars and 12 spaces for horse trailers. No mountain biking or equestrian uses would be permitted on the Heritage Community Park Site.

The plan provides for up to 140 parking spaces that are scattered throughout the site. No individual parking area has more than 60 cars in it, however, expansion areas are included so that additional parking may be provided if demand warrants expansion. The parking areas consist of asphalt aisles and gravel or pervious parking spaces that will minimize stormwater runoff while still maintaining handicap and emergency vehicle access. Best Management Practice (BMP) ponds are shown near all impervious areas to catch stormwater runoff and filter pollutants and slow the runoff prior to reaching the site's drainage ways and Tom's Creek.

Excluding the area of future use, the reforestation and wet enhancement areas, the plan proposes disturbing or grading only 22.5 acres of the entire 169-acre tract. This includes all trail areas as well as all proposed shelter and parking areas. This represents only 13% of the entire site. Total impervious pavement, including all potentially paved trails, building and parking and walkways is less than 7 acres. This represents 4.1% of the entire site area.

The plan strives to balance the desires of the community as provided in our input sessions with the needs of the parks department. All existing environmentally sensitive areas have been preserved. In addition, we are proposing to reforest over 25 additional acres along with over 43 acres of successional meadow converting them from open grazing fields to natural vegetation and/or tree canopy. We are also proposing an additional 11 acres of wetland enhancements that will re-establish the functions of the wetlands that have been impacted over the years by the dairy farming and grazing. This represents a natural area expansion of over 73 acres or 47% of the entire site over the existing preserved environmentally sensitive areas.

The area of future use represents about 30 acres. This area is reserved for future recreational activities only if needed and represents less than 18% of the site. This is in proportion with the 20% of the community that expressed the desire for some active recreation on this site. Conversely, the remaining 139 acres of the site represents over 82% of the total site area that is designated for nature-related activities and access. This is in direct proportion to the 80% of the community that desired a nature park or nature preserve concept for the park's development.

At total build-out of the master plan as presented, our estimate of probable construction cost is \$6.35 Million. This figure is in 2003 dollars and may vary at the time bids are to be let. The project can be phased as construction dollars become available.

RECOMMENDED TRAIL STANDARDS

The Town of Blacksburg develops trails based on two guiding principles – safety and accessibility. Public safety issues include, but are not limited to, proper enforcement of park/trail rules and regulations, a stable and reliable surface, appropriate lighting and other trail amenities such as seating areas, emergency phones, drinking water access, and others as appropriate. Accessibility is well defined by the Americans with Disabilities Act (ADA) and trails should attempt to provide, at a minimum, an equivalent experience for all users; a firm and stable surface; and be accessible unless not feasible due to the terrain or prevailing construction practices.

A secondary principle guiding Town trail development is to provide a variety of trails for different uses, including recreational multiuse, nature, and education. Trail designations may change as users, user demands, needs, and frequencies of use change. Trail maintenance and erosion control are other issues that guide the design and surface of trails, particularly for trails with moderate to severe slopes.

The Town of Blacksburg uses two types of trail construction – hard and soft surface. Hard surface trails are impervious, or water resistant, and do not absorb moisture well, if at all. Common examples of hard surface trails are concrete, asphalt, brick, and granular stone. These surfaces are handicap (ADA) accessible, require minimal maintenance, and better absorb the impact of frequent use. Hard surface trails are also appropriate where the topography exceeds eight percent slope.

Soft surface trails are pervious and typically include earth, grass, bark, and wood decking. These surfaces are appropriate for low impact, infrequent use and generally require more maintenance than hard surface trails. Wood decking is the only soft surface that may be handicap accessible if properly constructed, and can absorb the impacts of repeated use. Soft surfaces are not used on trails with slopes greater than eight percent due to the need for continual maintenance and wash-outs.

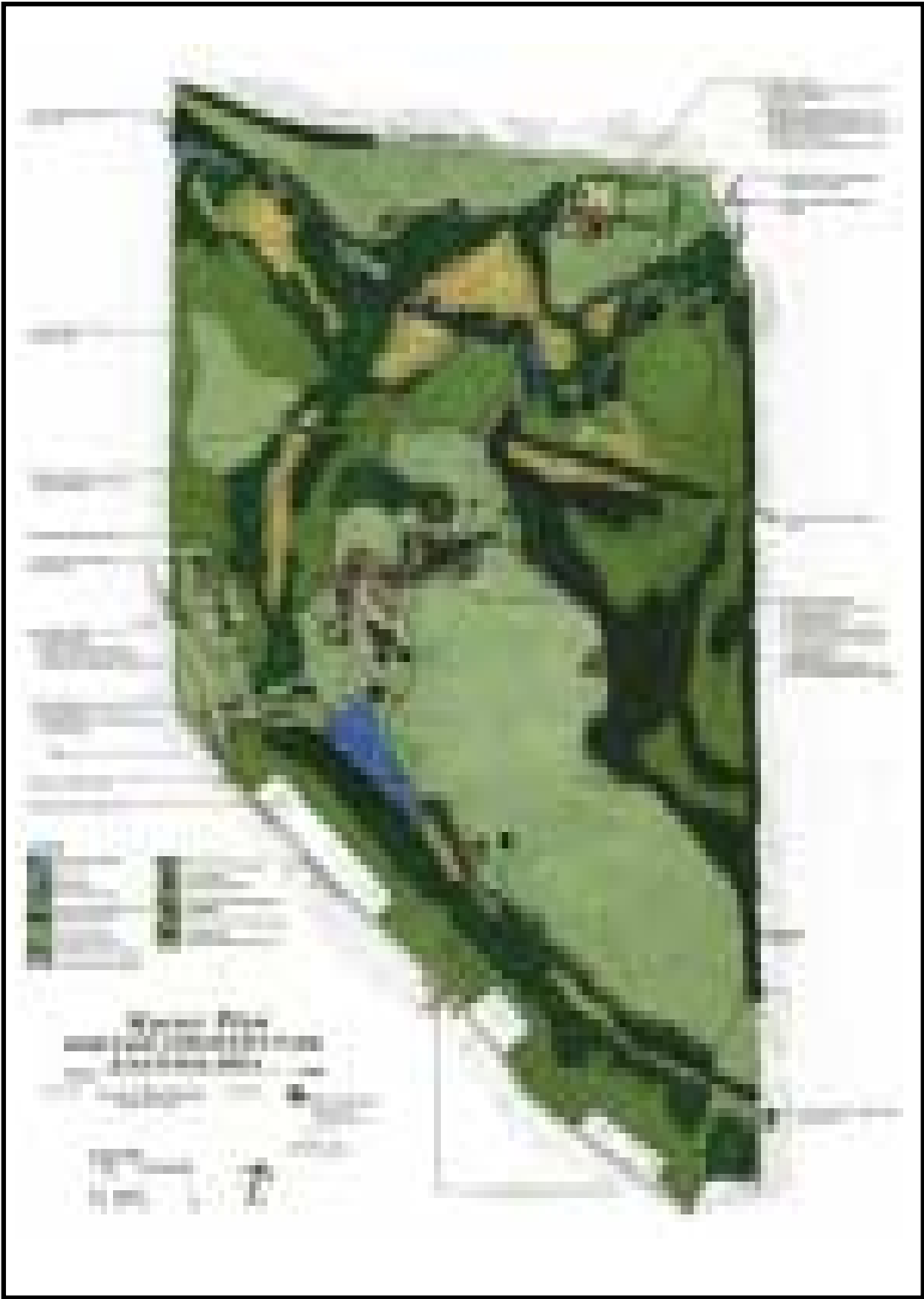
The trail system shown on the Master Plan, while conceptual, illustrates a network of trails, that includes a central loop, various connecting trails, and three greenway arterial trails – the Huckleberry Trail, Tom’s Creek Greenway, and the Shadowlake Greenway. This primary trail network is over 24,375 linear feet or 4.5 miles as proposed at present, but may be expanded as needs change. As the park develops over time, it is expected that special purpose secondary trails (e.g. nature trails) will also be developed.

Appropriate trail facilities and surfaces will be evaluated during the design and construction of trails, and periodically after installation, based on the above guidelines and use patterns. For safety and accessibility reasons, most of the primary trails are expected to be hard surface trails, while most of the secondary trails are expected to be soft surface trails.

Source: Greenways: A Guide to Planning, Design, and Development, 1993

Heritage Community Park & Natural Area Master Plan

click image for larger view



Core Area Blow-Up

click image for larger view



BUDGET ESTIMATE SUMMARY:

This estimate reflects our current understanding of construction costs and is the result of prices included in recent bids and with discussions with contractors. Prices may vary somewhat from this estimate at the time the bids are to be let due to material availability, contractor workload, site conditions and economic climate. Soft costs, such as design fees and acquisitions, are not included.

This estimate is based upon the Master Plan prepared by Wirth & Associates, Inc. dated February, 2003. The dollar figures are in 2003 dollars and may be subject to inflation over a period of time.

MASTER PLAN RECOMMENDATIONS:

General Conditions

Mobilization, site demolition, clearing, rock allowance, erosion control, utilities, signage, and landscaping & grassing.

Total : \$ 766,000.00

Access Roadway/Realignment of Glade Road

Realign Glade Road, underpass, demolition, grading, new dam, storm drainage, asphalt, entrance sign and landscaping.

Total: \$ 690,550.00

Nature Center Area

Parking area, grading, storm drainage, concrete walks, Nature Center, outdoor classroom/deck, nature-themed playground, wildflower garden, starlab platform, amphitheater, Wildlife Center, Maintenance area/Caretaker Residence, silo renovation, bird observation area.

Total: \$1,705,265.00

Lake Area Improvements

Outdoor picnic shelter w/restrooms, concrete walks, grading, storm drainage, trash receptacles, picnic tables, barbecue grills, playground, and water fountains.

Total: \$ 476,760.00

BUDGET ESTIMATE SUMMARY (CONT.):

Trail Head at Glade Road

Parking area, grading, bollards, picnic shelter, landscaping, grills, benches and concrete walks.

Total: \$ 257,180.00

Trail Head at Meadowbrook

Picnic shelter w/restrooms, parking area, playground equipment, accessible surfacing, grading, entrance/directional signage, benches, landscaping and trash receptacles.

Total: \$ 366,800.00

Trails/Site Improvements

Asphalt trails, pervious trails, BMP's, indoor picnic shelter, bridges, boardwalks, reforestation, wetland enhancement, wildflower meadow, picnic shelters, benches, trash receptacles, signage and landscaping.

Total: \$1,380,980.00

Sub-Total: \$5,643,535.00

12.5% Contingency: \$ 705,440.00

Total Estimate Master Plan Recommendations: \$6,348,975.00

PHASING/IMPLEMENTATION

The proposed recreational resource areas were reviewed and rated in determining which elements were deemed of immediate need for the Park and Recreation Department and the community. In all instances, the Glade Road entrance and trail head area would create immediate access to the site for the public and begin to create public awareness of the site's pristine character and natural characteristics. In addition a minimal amount of trail should be constructed to provide access down to the Tom's Creek area.

A subsequent, or concurrent, next phase should include the trail head area at Meadowbrook Road. This area includes a picnic shelter with restrooms, parking areas and trails that would link to the Glade Road trail head area.

Upon completion of this initial phase of the development, other areas and trail systems can be constructed as monies become available and needs are determined.

PHASE ONE BUDGET:

Trail Head at Glade Road

Parking area, grading, bollards, picnic shelter, landscaping, grills, benches and concrete walks.

\$ 257,100.00

Trail Head at Meadowbrook

Picnic shelter w/restrooms, parking area, playground equipment, accessible surfacing, grading, entrance/directional signage, benches, landscaping and trash receptacles.

\$ 366,800.00

Trail Improvements

Asphalt trails connecting each Trail Head, pervious trails, BMP's, bridges, boardwalks, benches, trash receptacles, signage and landscaping.

\$ 300,000.00

TOTAL INITIAL PHASE:

\$ 923,980.00

POTENTIAL FUNDING SOURCES

The following are examples of state and federal funding sources that are available to local governments and organizations for use in trail and recreation facility development.

Virginia Outdoor Fund (VOF)

The Department of Conservation and Recreation administers a grant-in-aid program for the acquisition and development for public outdoor recreation areas and facilities. Grants are for public bodies only. Towns, cities, counties, regional park authorities and state agencies may apply for 50 percent matching fund assistance from the Virginia Outdoors Fund. These funds are provided through state general fund appropriations, when available, and from federal apportionment from the Land and Water Conservation Fund (L&WCF) that are available for the acquisition and/or development of outdoor recreation areas.

The program is a reimbursement program, meaning that the sponsoring agency should be capable of financing the project while requesting periodic reimbursement. Applications for the Virginia Outdoors Fund Grant Program should be sent to the attention of:

Division Director, Planning and Recreation Resources
Department of Conservation and Recreation
203 Governor Street
Suite 326
Richmond, Virginia 23219-2010

(804) 786-3218 or (804) 786-2093.

Virginia Recreational Trails Fund Program

The Virginia Recreational Trails Fund Program is a grant program established for the purposes of providing and maintaining recreational trails and trails-related facilities. It is funded through the Transportation Equity Act for the 21st Century (TEA-21), which establishes a program for allocating funds to the States for recreational trails and trail-related projects.

The U.S. Department of Transportation, Federal Highway Administration (FHWA) administers the program in consultation with the Department of the Interior. The state agency responsible for administering the program in Virginia is the Department of Conservation and Recreation (DCR).

Grant funding may be provided to private organizations, city governments, county governments, or other government entities, but must consider guidance from the DCR Trails Board.

Additionally, federal government entities may be eligible to participate if teamed with private trail groups and organizations. An optimum 30% of the trail program funds will be used for motorized recreational trail uses, and 30% will be used for non-motorized recreational trail uses. Forty percent of trail funds must be given to project proposals with the greatest number of compatible recreational purposes and/or provide for innovative recreational trail corridor sharing (multiple-use trails).

This is a reimbursement program, meaning that the sponsoring agency should be capable of financing the project while requesting periodic reimbursements. All project applications must have a 20% (minimum) sponsor match in total cost.

Contact Information:

Virginia Recreational Trails Fund Program
Department of Conservation and Recreation
203 Governor Street, Suite 326
Richmond, Virginia 23219
(804) 786-3218

Glossary of Terms:

- ↑↑ **Amphitheater:** An outdoor theater for educational or entertainment purposes that maximizes the use of the natural terrain to orient audiences to an event area. The amphitheater, as shown on the master plan, provides formal and informal seating for 100-150 persons and conforms to the naturally sloped terrain.
- ↑↑ **Best Management Practice Pond (BMP):** A standard stormwater control measure to control and contain non-point source pollution due to water run-off from impervious surfaces. BMPs are a widely accepted environmental land use practice.
- ↑↑ **Boardwalk Trail:** A type of “soft surface” trail that is commonly used in environmentally sensitive areas such as wetlands to minimize environmental impacts, provide handicap accessibility, and accommodate a large number of users.
- ↑↑ **Drainage Corridors:** Also known as a Stream Corridor. A linear ecosystem along either side of a flowing surface water system, which includes the channel and its banks, and nearby sidestream areas. For larger drainageways the drainage corridor may include floodplain and transitional upland fringe.
- ↑↑ **Farm Pond:** A manmade body of water, varying widely in size, that is typically built to accommodate associated farming uses such as watering livestock, crop irrigation, and fishing. These features can become aesthetic, environmental, and recreational amenities over time and often develop aquatic life and serve as good wetland habitats.
- ↑↑ **FEMA FIRM Maps:** A nation wide mapping system of Flood Insurance Rate Maps developed by the Federal Emergency Management Agency intended to establish floodplain & floodway elevations along streams, rivers, and waterways.
- ↑↑ **Floodplain:** Designated as those land areas in and adjacent to streams and watercourses subject to continuous or periodic inundation from flood events.
- ↑↑ **Indoor Picnic Shelter:** An enclosed structure that functions primarily as a programmable facility for a wide variety of activities including recreation or environmental education classes, family gatherings, meetings, and many other community functions. These facilities typically include restrooms, cooking facilities, indoor/outdoor lighting, and heating and air-conditioning.
- ↑↑ **Lowland Community:** A generalized ecosystem category, specific to this site, that designates biological communities found within generally level, low lying areas. This category includes wetland communities as well as non-wetland floodplain communities.

- ↑ **Marsh Wetland:** A generalized plant community category, specific to this site, which is dominated by herbaceous wetland plant species and typically also exhibits hydric soils and field indicators of wetland hydrology. This community is typically observed in generally level non-forested floodplain depressions and litoral edges of ponds and other waterbodies.

- ↑ **Mowed Grass Area:** An open area that functions as a large lawn or recreation field and is maintained as such. In the Town of Blacksburg, grass must not exceed 10 inches in height for mowed areas.

- ↑ **Native Botanical Gardens:** A defined area that features and displays any number of herbaceous and woody native plant species ranging from vines & ground covers to shrubs and trees, both deciduous and evergreen.

- ↑ **Picnic Shelter:** An outdoor covered structure used for any number of community and family activities. Shelters range in size (from small, 10-foot diameter, to large 100-foot diameter), shape (octagonal or hexagonal, circular, rectangular, etc.), and materials (wood, metal, recycled plastic, etc.). Shelters are typically placed on a solid foundation such as concrete and located near other amenities (trails, volleyball, horseshoe pits, recreation fields, playgrounds, natural areas, etc.).

- ↑ **Playground:** A formal play area that contains Consumer Product Safety Commission (CPSC) approved equipment for children ranging from ages 2 and up. Play equipment should be located on appropriate, CPSC approved surfacing and have adequate accessibility.

- ↑ **Preserved/Enhanced Wetlands:** Identified plant communities intended for the protection, expansion, or improvement of the quality or quantity of marsh, riparian, tributary, or other wetlands.

- ↑ **Reforested Stream Corridor:** Planned environmental enhancement of habitat (for aquatic flora and fauna) by planting trees and other appropriate vegetation within critical drainage corridors to provide needed shading, nutrients, and bank stabilization.

- ↑ **Riparian Wetland:** A generalized plant community, specific to this site, which is dominated by herbaceous and woody wetland plant species and typically also exhibits hydric soils and field indicators of wetland hydrology. Occurs in a linear manner along flowing water courses within the saturated or flooded zone of the Drainage Corridor.

- ↑ **Stream Zone:** A stream zone occurs within a Drainage Corridor and is intended to represent that portion of land which is closest to the channel and is

the most sensitive to land disturbing activities as related to stream integrity and water quality. A stream zone may be designated by topographic features or a measured width.

- ↑ **Successional Meadow:** A grassed area in a transitional state to reforestation that is not routinely maintained except for minimal thinning and clearing (usually over a period of years). These environments provide critical habitats for a wide variety of native (and non-native) flora and fauna.
- ↑ **Trail System:** An integrated network of multi-use and pedestrian trails that serve a variety of users and functions. Trails vary widely in surfacing, slope, use, and demand and should be designed to function independently as well as make connections.
- ↑ **Tributary Wetland:** A generalized plant community category, specific to this site, which occurs within the narrow stream corridor upstream of the floodplain and includes the channel of the tributary.
- ↑ **Upland Community:** A generalized ecosystem category, specific to this site, that designates biological communities found on sideslopes and ridgetops. This category is comprised entirely of non-wetland communities but may include scattered individuals, which are considered as wetland species.
- ↑ **Wild Flower Meadow:** A defined area that features any number of natural herbaceous flower species, such as Asters, Coreopsis, Delphinium, Helianthus, Iris, Solidago, and others, growing in a suitable habitat.